

SURVEYOR'S OFFICE

Hamilton County

Kenton C. Ward, CFM
Surveyor of Hamilton County
Phone (317) 776-8495
Fax (317) 776-9628

Suite 188
One Hamilton County Square
Noblesville, Indiana 46060-2230

March 12, 2009

To: Hamilton County Drainage Board

Re: J.R. Collins #1 Drain – 131st Street and U.S. 31 Infrastructure Relocation

Attached is a petition and plans for the proposed relocation of the J.R. Collins Drain, #2 Arm. The relocation is being proposed by Browning Real Estate Partners. The proposal is to relocate a portion of the #2 Arm by providing a new pipe under U.S. 31 to provide a sufficiently sized outlet for the 131st Street and U.S. 31 commercial development.

The relocated drain is shown on page C702 of the construction plans prepared by Cripe Architects & Engineers, having job number 0060384-20300, dated January 15, 2009, and stamp approved by HCSO on February 2, 2009. The new drain will begin at Str. 701B, then to Str. 701A, then to Str. 701, and end at existing Str. 700 per the plans, which is the same as Str. 722 of the J.R. Collins #1 Drain, CMC Properties Relocation.

The drain in total will consist of the following lengths:

157 feet of 18" RCP

208 feet of 18" Fused HDPE Pipe

The total length of new drain shall be 365 feet. The 686 feet of the original J.R. Collins Drain, #2 Arm, from Sta. 0+00 to Sta. 6+86 per the original 1890 legal description shall be vacated. Sta. 6+86 has a breather located at the east right of way fence line for U.S. 31. This proposal will remove 321 feet from the J.R. Collins Drain, #2 Arm.

The relocation and development of the 131st Street and U.S. 31 commercial development will change the watershed boundaries for the J.R. Collins #1 Drain. The following changes should be made to the J.R. Collins #1 drain maintenance assessments.

Parcel Number	Parcel Owner	Current Acreage	Old Asmt.	Proposed Acreage	New Asmt.	Land Use
17-09-26-02-01-001.000	Saint Christopher Episcopal Church of Carmel	0.01	\$25.00	0.06	\$25.00	Res/Ag.
17-09-26-02-01-001.001	Meridian 131 LLC	0.35	\$25.00	0.40	\$25.00	Comm.
17-09-26-00-00-005.101	Meridian 131 LLC	0.30	\$25.00	0.49	\$25.00	Comm.
17-09-26-00-00-005.001	Saint Christopher Episcopal Church of Carmel	1.02	\$25.00	6.36	\$31.80	Res/Ag.
17-09-26-00-00-005.000	Meridian 131 LLC	5.14	\$25.70	9.61	\$48.06	Comm.
U.S. 31 Right of Way	INDOT	52.06	\$260.30	57.22	\$286.10	Road
Grand Boulevard ROW	City of Carmel	62.35	\$311.76	64.81	\$324.06	Road

This change will result in a net increase of \$67.26 to the J.R. Collins #1 Drain maintenance assessment.

The cost of the relocation is to be paid by Browning Real Estate Partners.

The petitioner has provided the Performance Bond as follows:

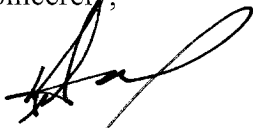
Name of Bonding Company: Developers Surety and Indemnity Company
Bond Number: 772232S
Bond Date: January 13, 2009
Bond Amount: \$69,372.00

The easements shall be 25 feet per half from the center of the new tile. This will place new easement on the following parcels:

Parcel Number	Parcel Owner
16-09-26-00-00-001.101	Meridian 131 LLC
16-09-26-00-00-001.001	City of Carmel
16-09-26-00-00-001.002	CMC Office Center-Carmel LLC
U.S. 31 Right of Way	INDOT

I recommend the Board set a hearing for this proposed drain for April 27, 2009.

Sincerely,



Kenton C. Ward, CFM
Hamilton County Surveyor

KCW/pll

HAMILTON COUNTY DRAINAGE BOARD
NOBLESVILLE, INDIANA

IN RE: _____)
Hamilton County, Indiana)

PETITION FOR RELOCATION AND RECONSTRUCTION

Jamie W. Browning, Browning Real Estate Partners (hereinafter "Petitioner"),

hereby petitions the Hamilton County Drainage Board for authority to relocate and improve a section of the J.R. Collins No. 1 Regulated Drain, and in support of said petition advises the Board that:

1. Petitioner owns real estate through which a portion of the J.R. Collins No. 1 Regulated Drain runs.
2. Petitioner plans to develop its real estate with roads, buildings, utilities, storm drains, sanitary sewers and other structures.
3. Petitioner's proposed development of its real estate will require relocation and reconstruction of a portion of the J.R. Collins No. 1 Regulated Drain, as specifically shown on engineering plans and specifications filed with the Hamilton County Surveyor.
4. The work necessary for the proposed relocation and reconstruction will be undertaken at the sole expense of the Petitioner and such work will result in substantial improvement to the J.R. Collins No. 1 Regulated Drain, without cost to other property owners on the watershed of the J.R. Collins No. 1 Regulated Drain.

WHEREFORE, Petitioner requests that an Order issued from the Hamilton County Drainage Board authorizing relocation and reconstruction of the J.R. Collins No. 1 Regulated Drain, in conformance with applicable law and plans and specifications on file with the Hamilton County Surveyor.

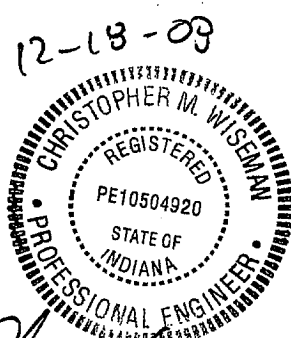

Signed

Jamie W. Browning, Vice President

Printed

131st Street and US 31 Infrastructure
ENGINEER'S COST ESTIMATE
 Prepared for the Hamilton County Surveyor's Office

REGULATED DRAIN IMPROVEMENTS					
1	Storm Structure	3	EA	\$2,500.00	\$7,500.00
2	Core Drill Existing Structure	1	EA	\$500.00	\$500.00
3	18" RCP w/ Bedding	157	LF	\$30.00	\$4,710.00
4	Directional Bore 18" Fused HDPE	208	LF	\$200.00	\$41,600.00
5	Repairs to Existing French Drain	1	LS	\$2,000.00	\$2,000.00
6	Erosion Control and Seeding	1	LS	\$1,000.00	\$1,000.00
7	Cap Existing Drain Tile	1	LS	\$500.00	\$500.00
Sub-Total, Regulated Drain Improvements					\$57,810.00
Bond Amount 120%					\$69,372.00



Christopher M. Wiseman

BEFORE THE HAMILTON COUNTY DRAINAGE BOARD
IN THE MATTER OF

*J. R. Collins #1 Drain,
131st Street & U S 31 Infrastructure Relocation*

NOTICE

To Whom It May Concern and: _____

Notice is hereby given of the hearing of the Hamilton County Drainage Board concerning the reconstruction of the **J. R. Collins #1 Drain, 131st Street & U S 31 Infrastructure Relocation** on **April 27, 2009, at 9:00 A.M.** in Commissioners Court, Hamilton County Judicial Center, One Hamilton County Square, Noblesville, Indiana. Construction and maintenance reports of the Surveyor and the Schedule of Assessments proposed by the Drainage Board have been filed and are available for public inspection in the office of the Hamilton County Surveyor.

Hamilton County Drainage Board

Attest: Lynette Mosbaugh

ONE TIME ONLY

STATE OF INDIANA)
) SS BEFORE THE HAMILTON
)
COUNTY OF HAMILTON) DRAINAGE BOARD

**IN THE MATTER OF J. R. Collins Drain, 131st Street and U. S.
31 Infrastructure Relocation**

NOTICE

Notice is hereby given that the Hamilton County Drainage Board at its regular meeting **April 27, 2009** adopted the reconstruction report of the Surveyor and the Amended Schedule of damages and assessments including annual assessment for periodic maintenance, finding that the costs, damages and expense of the proposed improvement would be less than the benefits which will result to the owner of lands benefited thereby.

The Board issued an order declaring the proposed improvement established. Such findings and order were marked filed and are available for inspection in the Office of the Hamilton County Surveyor.

If judicial review of the findings and order of the Board is not requested pursuant to Article VIII of the 1965 Indiana Drainage Code as amended within twenty (20) days from the date of publication of this notice, the findings and order shall become conclusive.

HAMILTON COUNTY DRAINAGE BOARD

BY: Steven C. Dillinger
PRESIDENT

ATTEST: Lynette Mosbaugh
SECRETARY

FINDINGS AND ORDER

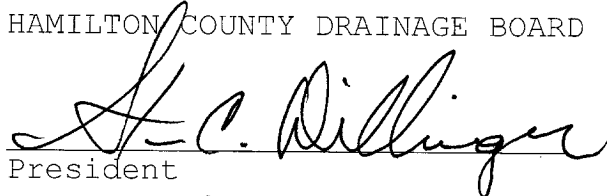
CONCERNING THE MAINTENANCE OF THE

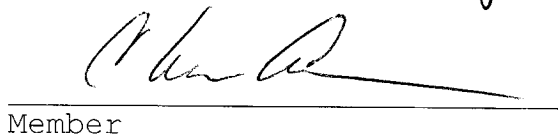
J. R. Collins #1 Drain,
131st Street and U. S. 31 Infrastructure Relocation

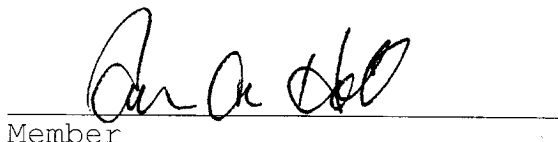
On this 27th day of April 2009, the Hamilton County Drainage Board has held a hearing on the Maintenance Report and Schedule of Assessments of the **J. R. Collins Drain, 131st Street and U. S. 31 Infrastructure Relocation.**

Evidence has been heard. Objections were presented and considered. The Board then adopted the original/amended Schedule of Assessments. The Board now finds that the annual maintenance assessment will be less than the benefits to the landowners and issues this order declaring that this Maintenance Fund be established.

HAMILTON COUNTY DRAINAGE BOARD


President


Member


Member

Attest: 

FINDINGS AND ORDER

CONCERNING THE PARTIAL VACATION OF THE

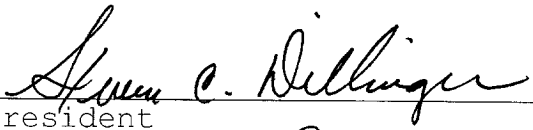
**J. R. Collins #1 Drain,
131st Street and U. S. 31 Infrastructure Relocation**

J. R. Collins #2 Arm - Station 0+00 to Station 6+86


On this 27th day of April 2009, the Hamilton County Drainage Board has held a hearing on the Maintenance Report and Schedule of Assessments of the **J. R. Collins #1 Drain, 131st Street and U. S. 21 Infrastructure Relocation; J. R. Collins #2 Arm - Station 0+00 to Station 6+86.**

Evidence has been heard. Objections were presented and considered. The Board then adopted an order of action. The Board now finds that the costs of continued maintenance to the portion of the above drain exceed the benefits to the real estate benefited by the portion of the drain to be abandoned and issues this order vacating the above section of the **J. R. Collins #1 Drain, 131st Street and U. S. 31 Relocation; J. R. Collins #2 Arm - Station 0+00 to Station 6+86.**

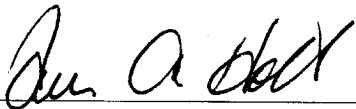
HAMILTON COUNTY DRAINAGE BOARD




President



Member



Member

Attest: 

STATE OF INDIANA)
) ss:
COUNTY OF HAMILTON)

BEFORE THE HAMILTON COUNTY
DRAINAGE BOARD
NOBLESVILLE, INDIANA

IN THE MATTER OF THE
RECONSTRUCTION OF THE
*J. R. Collins #1 Drain, 131st Street and U. S. 31 Infrastructure
Relocation*

FINDINGS AND ORDER FOR RECONSTRUCTION

The matter of the proposed Reconstruction of the *Springmill J. R. Collins #1 Drain, 131st Street and U. S. 31 Infrastructure Relocation* came before the Hamilton County Drainage Board for hearing on **April 27, 2009**, on the Reconstruction Report consisting of the report and the Schedule of Damages and Assessments. The Board also received and considered the written objection of an owner of certain lands affected by the proposed Reconstruction, said owner being:

Evidence was heard on the Reconstruction Report and on the aforementioned objections.

The Board, having considered the evidence and objections, and, upon motion duly made, seconded and unanimously carried, did find and determine that the costs, damages and expenses of the proposed Reconstruction will be less than the benefits accruing to the owners of all land benefited by the Reconstruction.


The Board having considered the evidence and objections, upon motion duly made, seconded and unanimously carried, did adopt the Schedule of Assessments as proposed, subject to amendment after inspection of the subject drain as it relates to the lands of any owners which may have been erroneously included or omitted from the Schedule of Assessments.

The Board further finds that it has jurisdiction of these proceedings and that all required notices have been duly given or published as required by law.

Wherefore, it is ORDERED, that the proposed Reconstruction of the *J. R. Collins #1 Drain, 131st Street and U.S. 31 Infrastructure Relocation* be and is hereby declared established.

Thereafter, the Board made inspection for the purpose of determining whether or not the lands of any owners had been erroneously included or excluded from the Schedule of Assessments. The Board finds on the basis of the reports and findings at this hearing as follows:

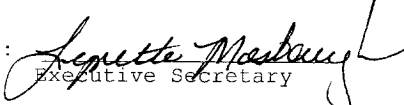
HAMILTON COUNTY DRAINAGE BOARD


PRESIDENT


Member


Member

ATTEST:


Executive Secretary



Architects + Engineers

Solutions by Design Since 1937

3939 Priority Way South Drive, Suite 400
Indianapolis, Indiana 46240
www.cripe.biz

Telephone 317.844.6777

Facsimile 317.706.6375

May 18, 2009

Greg Hoyes
Hamilton County Surveyor's Office
On Hamilton County Square, Suite 188
Noblesville, IN 46060-2230

RE: 131st Street and US 31 Infrastructure – Stormwater Bore under US 31

Dear Greg:

Cripe is writing this letter for confirmation that the hydraulic impacts on this site shall be as originally intended and the site or the surrounding areas have no adverse impact.

As you are aware the 18" bore pipe under US 31 was installed lower than the approved plans and drainage report dictated. Cripe has hydraulically modeled the 18" bore pipe in its current condition (lower than originally designed) and has included an additional 208 LF of 8" inside diameter pipe between structures 701 A (at invert 864.24) and 701 (at invert 863.93) in the drainage model. This double pipe outlet system conveys and releases the stormwater with the intent of the approved drainage plan.

Please confirm that this approach is acceptable to the Hamilton County Surveyor Office, so installation can begin.

Please contact me at 317-706-6429 or cwiseman@cripe.biz with any further questions or concerns.

Sincerely,

CRIFE ARCHITECTS + ENGINEERS

A handwritten signature in black ink that reads "Chris M. Wiseman".

Chris Wiseman
2009.05.19 09:04:04 -04'00'

Christopher M. Wiseman, P.E.
Project Manager

cc: Jamie Browning, Browning
Eric Blount, Browning
David Lach, Cripe
FILE

CERTIFICATE OF COMPLETION AND COMPLIANCE

To: Hamilton County Surveyor

Re: 131st Street and US 31

I hereby certify that:

1. I am a Registered Land Surveyor or Engineer in the State of Indiana.
2. I am familiar with the plans and specifications for the above referenced subdivision.
3. I have personally observed and supervised the completion of the drainage facilities for the above referenced subdivision.
4. The drainage facilities within the above referenced subdivision to the best of my knowledge, information and belief have been installed and completed in conformity with all plans and specifications *as marked up and with the addition of the supplemental letter*
5. The drainage facilities within the above referenced subdivision to the best of my knowledge, information and belief have been correctly represented on the Record Drawings, Digital Record Drawings and the Structure Data Spreadsheet.

Signature: *Christopher M. Wiseman* Date: 1-13-10

Type or Print Name: Christopher M. Wiseman, P.E.

Business Address: Cripe Architects + Engineers

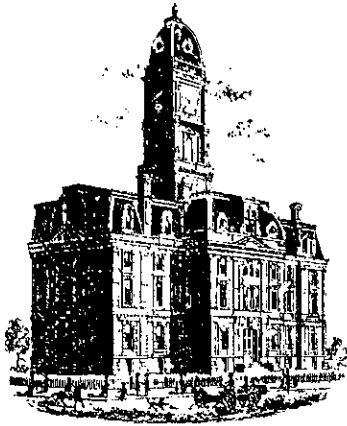
3939 Priority Way S Drive, Suite 400, Indianapolis, IN 46240

Telephone Number: 317-844-6777



INDIANA REGISTRATION NUMBER

PE 10504920



K. Ward

SURVEYOR'S OFFICE
Hamilton County

Kenton C. Ward, CFM
Surveyor of Hamilton County
 Phone (317) 776-8495
 Fax (317) 776-9628

Suite 188
One Hamilton County Square
Noblesville, Indiana 46060-2230

To: Hamilton County Drainage Board

August 10, 2010

Re: JR Collins Drain: 131st & US 31 Infrastructure Improvements

Attached are as-builts, certificate of completion & compliance, and other information for 131st & US 31 Infrastructure Improvements. An inspection of the drainage facilities for this section has been made and the facilities were found to be complete and acceptable.

During construction, changes were made to the drain, which will alter the plans submitted with my report for this drain-dated April 27, 2009. The report was approved by the Board at the hearing held April 27, 2009. (See Drainage Board Minutes Book 12, Pages 6-8)

The changes are as follows:

Structure:	Length:	Size	Material:	Up Invert:	Dn Invert:	Grade:
701B-701A	92	18	RCP	864.38	864.24	0.15
701-700	65	18	RCP	863.93	863.83	0.15
701A-701	208	8	HDPE	864.24	863.93	0.15
701A-701	208	18	HDPE	864.24	862.43	0.15

RCP Pipe Totals:

18" RCP	157
---------	-----

Total: 157

HDPE Pipe Totals:

18" & 8"	208
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Total: 208

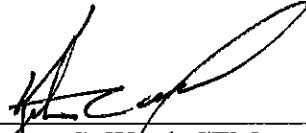
It should be noted that the pipe between Structures 701A to 701 are dual pipes. The length of the drain due to the changes described above is now **365 feet**.

The drainage easements were established at 25 per half from the center line of the new tile. The following sureties were guaranteed by Developers Surety and Indemnity Co. and released by the Board on its February 22, 2010 meeting.

Bond-LC No: 772232S
Insured For: Storm Sewers, Erosion Control
Amount: \$69,372.00
Issue Date: January 13, 2009

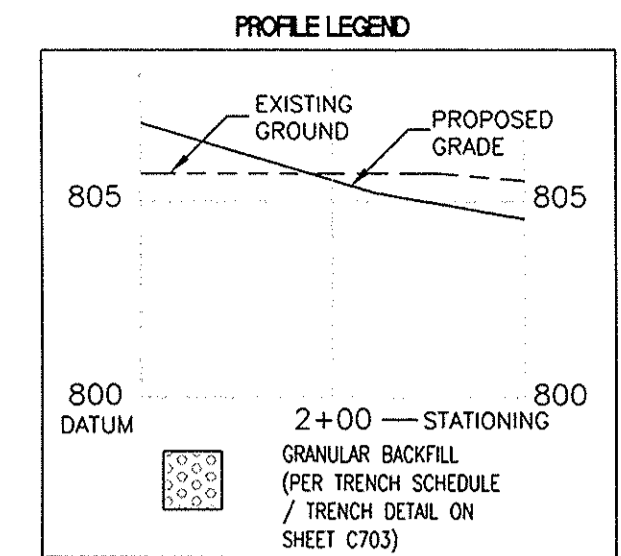
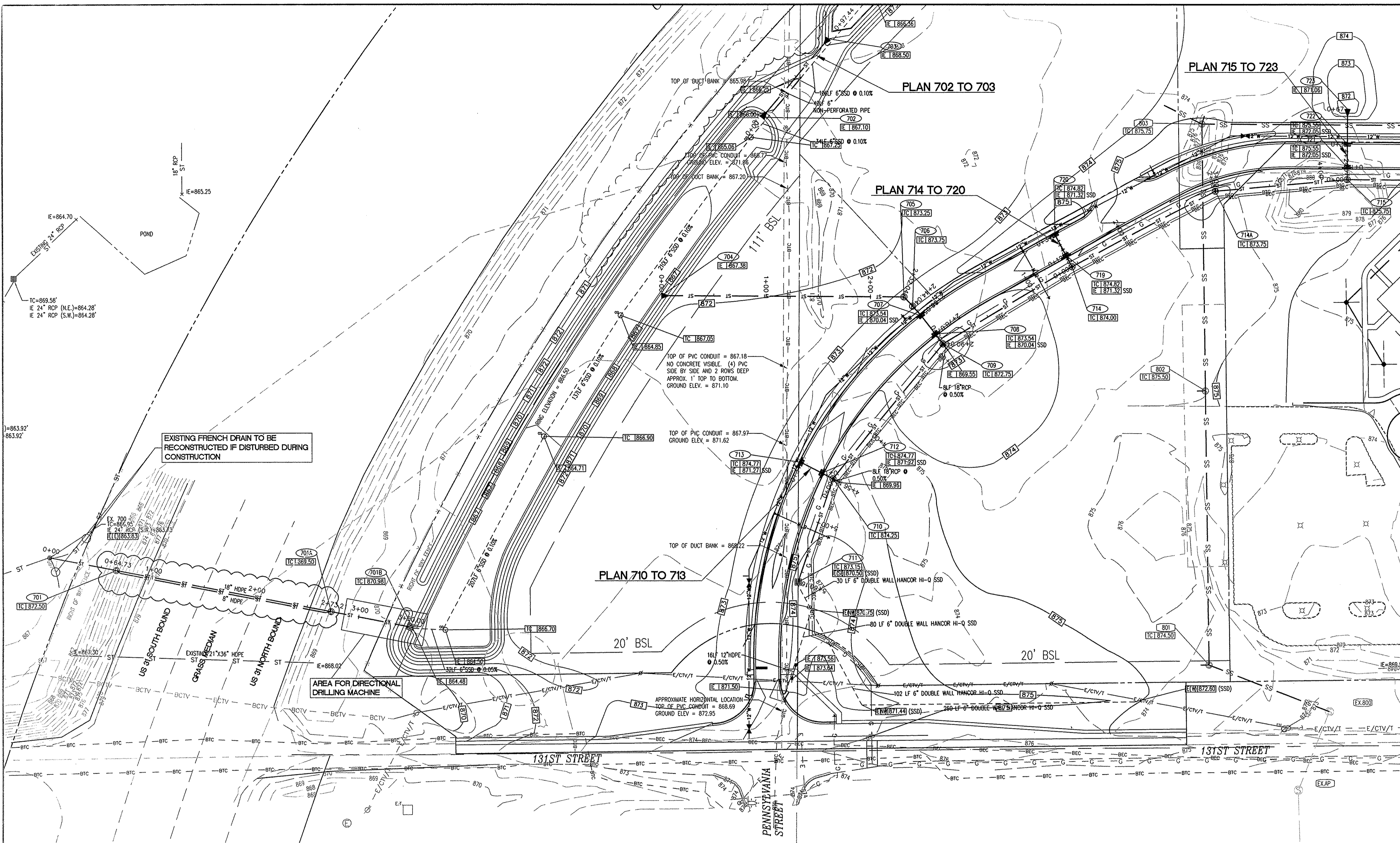
I recommend the Board approve the drain's construction as complete and acceptable.

Sincerely,

A handwritten signature in black ink, appearing to read 'K. Ward', written over a horizontal line.

Kenton C. Ward, CFM
Hamilton County Surveyor

KCW/slm



CARMEI EARTHWORK NOTE
 NO EARTH DISTURBING ACTIVITY MAY COMMENCE WITHOUT AN APPROVED STORM WATER MANAGEMENT PERMIT.

STORM SEWER PLAN AND PROFILE NOTES

- OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS FOR EXCAVATIONS; FINAL RULE 29 CFR PART 1926, SUBPART "P" APPLIES TO ALL EXCAVATIONS EXCEEDING FIVE (5) FEET IN DEPTH.
- IN ADDITION, EXCAVATIONS EXCEEDING TWENTY (20) FEET IN DEPTH REQUIRE THE DESIGN OF A TRENCH SAFETY SYSTEM BY A REGISTERED PROFESSIONAL ENGINEER.
- ALL STRUCTURES SHALL HAVE CASTINGS, JOINTS, LIFT RINGS, STEPS AND PIPE CONNECTIONS WELL GROUDED, TROWELED SMOOTH AND BRUSH FINISHED.
- ALL STRUCTURES (IE: MANHOLES, INLETS) SHALL HAVE POURED FLOW LINES AND BENCH WALLS. THE FLOW LINES AND BENCH WALLS SHALL BE TROWELED SMOOTH AND BRUSH FINISHED.
- FIELD ADJUSTMENTS OF TOP OF CASTING (I.C.) OF STRUCTURES MAY BE REQUIRED TO MEET FIELD CONDITIONS. ADJUSTMENTS EXCEEDING FIVE TENTHS (0.5) OF A FOOT MUST BE APPROVED BY THE ENGINEER TO DETERMINE THE INTEGRITY OF THE STRUCTURE. AT NO COST TO THE OWNER.
- STORM STRUCTURES WITH INLET CASTINGS SHALL BE SET TO MAINTAIN A POSITIVE DRAINAGE FLOW INTO THE STRUCTURE.
- STORM PIPE INVERTS AT OUTLET STRUCTURES (IE: END SECTIONS), AND PIPE LENGTHS MAY REQUIRE FIELD ADJUSTMENTS TO MEET ACTUAL FIELD CONDITIONS.
- FULL DEPTH GRANULAR BACKFILL SHALL BE REQUIRED UNDER AND WITHIN (5) FEET OF ALL PAVED AREAS, INCLUDING CURBS, EDGE OF PAVEMENT, AND SIDEWALKS.
- ALL BACKFILL WITHIN THE PROPOSED RIGHT-OF-WAY FOR ANY UTILITY OR OTHER WORK SHALL COMPLY WITH DETAIL 10-28 SHEET C703.
- PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE AND INCLUDE END SECTIONS.
- TOP OF CASTING (I.C.) SHALL INDICATE THE ELEVATION THAT WATER WOULD ENTER A STRUCTURE, WHEN A STRUCTURE IS NOT A CURB INLET. I.C. SHALL INDICATE TOP OF CURB WHEN STRUCTURE IS A CURB INLET.
- ANY DISCREPANCIES OR CONFLICTS WHICH BECOME APPARENT BEFORE OR DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REVISION MAY OCCUR.
- THE PROJECT FALLS IN THE J.R. COLLINS NO. 1 REGULATED DRINK WATER SHED.
- THE PROPOSED SITE DOES NOT FALL IN A CARMEI WEAD HEAD PROTECTION AREA.
- THE ENCLOSED STORM SEWER SYSTEM SHALL BE A PRIVATE SYSTEM AND MAINTAINED BY THE ASSOCIATION.
- ENTIRE PROJECT LIES WITHIN FLOOD ZONE "X" AS SCALED FROM THE FLOOD INSURANCE RATE MAP FOR HAMILTON COUNTY.
- THE STORM SEWER SYSTEM SHALL BE CONSTRUCTED PER DESIGN SPECIFIED AND AS APPROVED BY THE CITY OF CARMEI. ON THE FINAL APPROVED CONSTRUCTION PLANS. DEVIATIONS FROM THE APPROVED DESIGN SHALL ONLY BE PERMITTED DUE TO SPECIAL CIRCUMSTANCES OR DIFFICULTY DURING CONSTRUCTION AND WILL REQUIRE PRIOR FIELD APPROVAL FROM A DESIGNATED REPRESENTATIVE OF THE CITY OF CARMEI IN ADDITION TO SUPPLEMENTAL APPROVAL BY THE DESIGN ENGINEER. AN EXPLANATION OF ANY SUCH DEVIATION SHALL BE INCLUDED AS A REQUIREMENT ON AS-BUILT/RECORD DRAWINGS SUBMITTED FOR RELEASE OF PERFORMANCE GUARANTEES. APPROVED DESIGN SLOPES IDENTIFIED AS GENERATING VELOCITIES OF 2.5 FPS OR LESS OR 10 FPS OR GREATER (AT FULL FLOW CAPACITY) SHALL REQUIRE AS-BUILT CERTIFICATION AT THE TIME OF CONSTRUCTION. PRIOR TO BACKFILLING THE PIPE, THE CONTRACTOR IS INSTRUCTED TO AS-BUILT EACH SECTION OF STORM PIPE AS IT IS BEING INSTALLED TO ENSURE COMPLIANCE WITH THE DESIGN PLANS AND AS APPROVED BY THE CITY OF CARMEI.

EXISTING FRENCH DRAIN TO BE RECONSTRUCTED IF DISTURBED DURING CONSTRUCTION

AREA FOR DIRECTIONAL DRILLING MACHINE

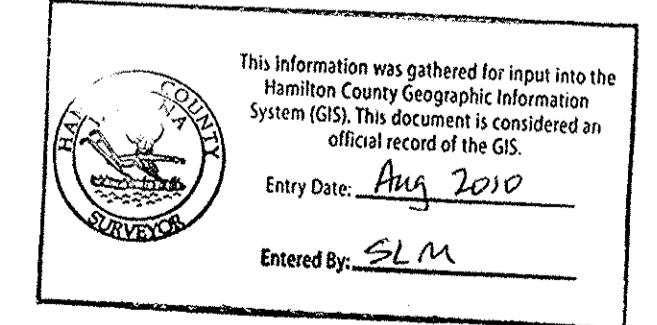
PROFILE EX 700 TO 701B
 VER. SCALE: 1" = 5'

PROFILE 710 TO 713
 VER. SCALE: 1" = 5'

PROFILE 714 TO 720
 VER. SCALE: 1" = 5'

PROFILE 715 TO 723
 VER. SCALE: 1" = 5'

PROFILE 702 TO 703
 VER. SCALE: 1" = 5'



STORM SEWER PLAN AND PROFILE
 131ST STREET AND US 31 INFRASTRUCTURE
BROWNING REAL ESTATE PARTNERS
 6100 W. 96TH STREET
 INDIANAPOLIS, IN 46276

ARCHITECTURE
 INTERIOR DESIGN
 CIVIL/TRANSPORTATION ENGINEERS
 LAND PLANNING
 LAND SURVEYING
 OWNERS REPRESENTATION

3939 PRIORITY WAY SOUTH DRIVE, SUITE 400
 INDIANAPOLIS, INDIANA 46240
 (317) 844-6777 FAX (317) 706-6464
 E-Mail: crp@cripe.biz

Cripe
 Architects + Engineers
 Solutions by Design Since 1927

CERTIFIED BY:

CONTRACTOR RECORD DRAWINGS

Date: 01-13-10

COVERING
 STORM SEWER PLAN AND PROFILE
 DESIGN

"NOTY WOLY" Seal Del. at least 100 feet from any structure and 100 feet from the lot line.

1-800-582-5544
 1-800-428-5200
 100 COLLETS DRIVE, #2000

Drawn By: S. FARNY, E.I.
 Checked By: P. GARTNER, PE
 Quality Assurance: P. GARTNER, PE
 Scale: 0
 Sheet: 0 of 50
C702
 Date: 01-15-09
 Project Number: 0060384-20300

OFFICE OF THE HAMILTON COUNTY SURVEYOR

STRUCTURE DATA TABLE

STR. NO.	TC/RIM ELEV.	INV. IN.	INV. OUT.	STR. SIZE	STR. TYPE	CASTING TYPE	PIPE SIZE	DIRECTION OF PIPE IN/OUT
701	872.50	863.93, 862.43	863.93	48" DIA.	MH (DETAIL D-20)	CT-1	8" 18"	E/W
704	870.97	864.24	864.24, 862.74	48" DIA.	MH (DETAIL D-20)	CT-1	8" 18"	E/W
705	869.57	862.46	862.46	TYPE 'E'	CONC. END SECTION (DETAIL ST-3A)	R-4215-C	36"	-/SW
702	-	867.10	-	-	CONC. END SECTION (DETAIL ST-3A)	-	36"	-/SW
703	-	868.50	-	-	CONC. END SECTION (DETAIL ST-3A)	-	36"	-/SW
704	-	867.38	-	-	CONC. END SECTION (DETAIL ST-3A)	-	30"	-/W
705	873.00	868.06	867.86	60" DIA.	MH (DETAIL ST-66)	R-1772	30"	SE/W
706	873.75	868.09	868.09	60" DIA.	H500	R-1772	30"	SE/W
707	873.54	868.32	868.22	60" DIA.	MH (DETAIL CS-7)	R-3287-15	30"	SE/W
708	873.54	868.48	868.38	60" DIA.	MH (DETAIL CS-7)	R-3287-15	30"	SE/W
709	872.75	869.26	868.51	60" DIA.	MH (DETAIL CS-7)	R-4342	21" 30"	SW/NW
		870.01					18" 30"	SE/NW
		869.01					24" 30"	NE/NW
710	874.25	869.92	869.67	60" DIA.	MH (DETAIL ST-6)	R-4342	18" 30"	SW/NE
		869.92					18" 30"	SW/NE
		870.42					12" 21"	NW/NE
711	873.15	-	870.18	2' x 2' BOX	CB (DETAIL CS1)	R-4215-C	18"	NE
712	874.77	870.45	870.45	TYPE 'E'	CB (DETAIL ST-37)	R-3287-10V	12"	NW/SE
713	874.77	-	870.51	TYPE 'E'	CB (DETAIL ST-37)	R-3287-10V	12"	-/SE
714	874.00	869.47	869.37	48" DIA.	MH (DETAIL ST-6)	R-34342	24"	NE/SW
		870.37					12" 24"	NW/SW
714A	873.75	870.11	869.86	48" DIA.	MH (DETAIL ST-6)	R-34342	21" 24"	NE/SW
715	875.75	870.68	870.43	48" DIA.	MH (DETAIL ST-6)	R-1772	18" 21"	E/SW
		870.68					18" 21"	N/SW
716	875.00	871.70	871.45	30" x 30" BOX	CB (DETAIL ST-37)	R-1772	18" 21"	N/W
717	875.83	871.83	871.73	30" x 48" BOX	CB (DETAIL ST-66)	R-3287-15	15"	N/S
718	875.83	871.99	871.89	30" x 48" BOX	CB (DETAIL ST-66)	R-3287-15	15"	N/S
718A	-	-	872.08	-	CONC. END SECTION (DETAIL ST-3A)	-	15"	-/S
719	874.82	870.51	870.41	TYPE 'E'	CB (DETAIL ST-37)	R-3287-10V	12"	NE/SW
720	874.82	870.57	870.57	TYPE 'E'	CB (DETAIL ST-37)	R-3287-10V	12"	-/SW
721	875.55	870.81	870.71	30" x 48" BOX	CB (DETAIL ST-66)	R-3287-15	18"	N/S
722	875.55	870.97	870.87	30" x 48" BOX	CB (DETAIL ST-66)	R-3287-15	18"	N/S
723	-	-	871.06	-	CONC. END SECTION (DETAIL ST-3A)	-	18"	-/S
724	-	-	869.70	-	CONC. END SECTION (DETAIL ST-3A)	-	18"	-/W
725	-	870.00	-	-	CONC. END SECTION (DETAIL ST-3A)	-	18"	E/-

* DEPTH = TC - (INV + DIA + THICKNESS)
CB = CATCH BASIN N/2 SWMP

NOTE: TABLE TO BE LOCATED ON DEVELOPMENT PLAN

HAMILTON COUNTY SURVEYOR'S OFFICE

APPROVED: *Kenton C. Ward* KENTON C. WARD, HAMILTON COUNTY SURVEYOR

REVISOR: 1 FEB 2002
DATE: 2/1/02
STANDARD PLAN D-19

OFFICE OF THE HAMILTON COUNTY SURVEYOR

STRUCTURE DATA TABLE

NO SCALE

ST-71

NOTES:

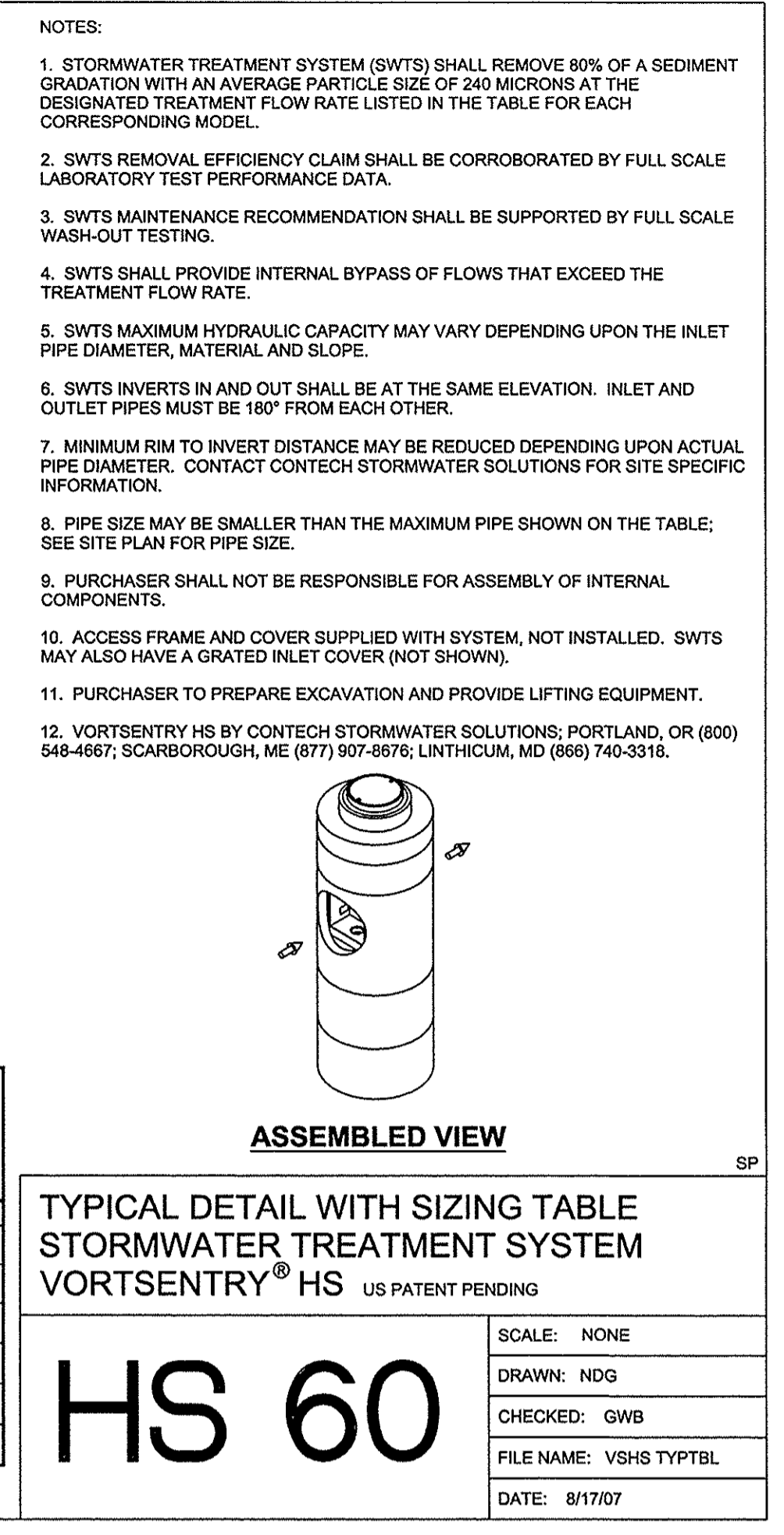
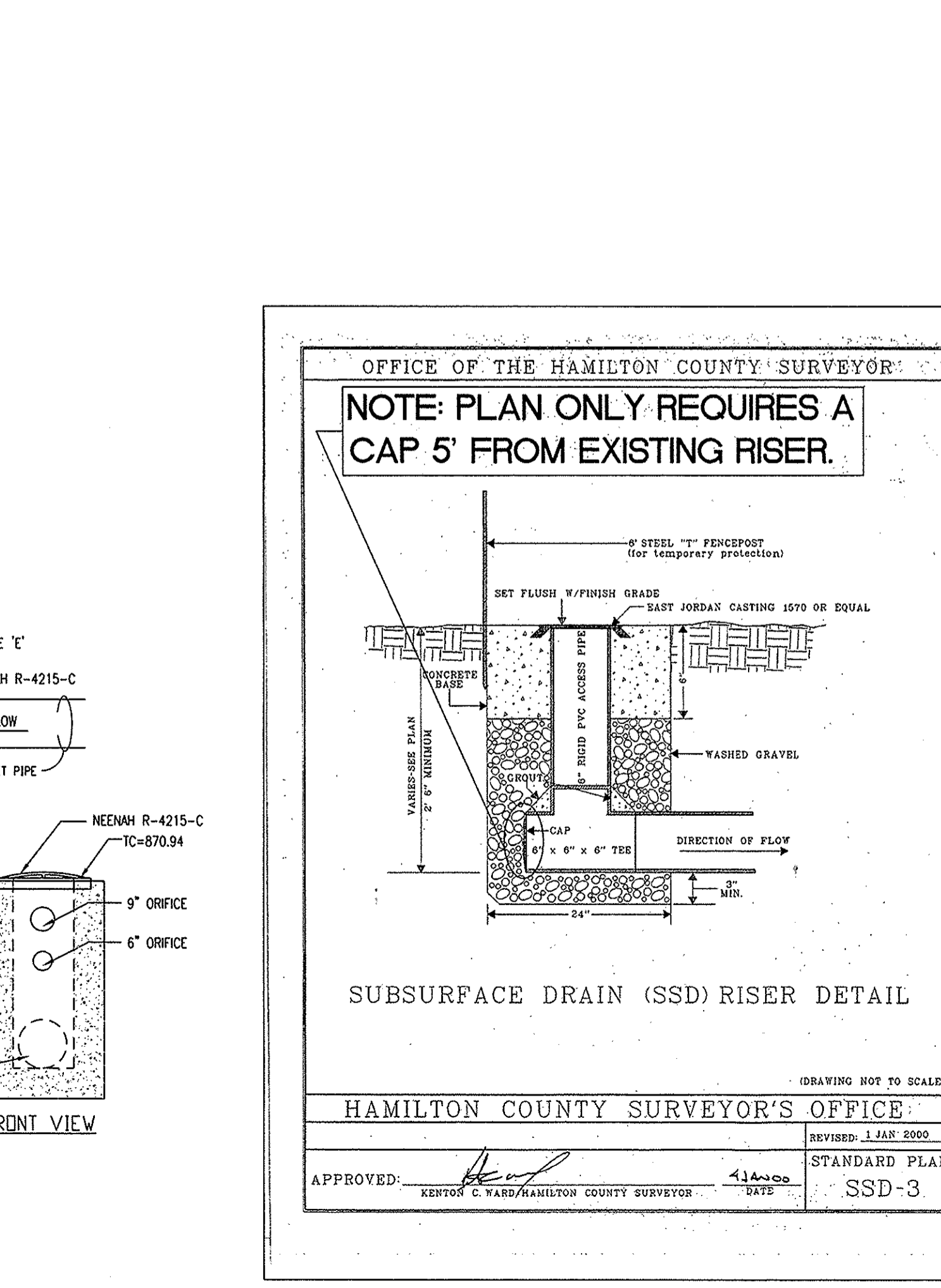
- THE PIPE LENGTHS ARE FROM THE CENTER OF THE STRUCTURE TO THE CENTER OF THE STRUCTURE.
- SEE CITY OF CARMEL STANDARDS FOR STORM STRUCTURE DETAILS AND NOTES ON SHEET C503.
- ALL STORM INLET CASTINGS SHALL BE NPDES PHASE II COMPLIANT - "NO DUMPING, DRAINS TO WATERWAY" SHALL BE ON THE CASTING.

ALL CASTINGS MUST INCLUDE CLEAN WATER MESSAGE AS SHOWN BELOW OR AS MODIFIED TO FIT ON CASTING.

HAMILTON COUNTY SURVEYOR'S OFFICE

APPROVED: *Kenton C. Ward* KENTON C. WARD, HAMILTON COUNTY SURVEYOR

REVISOR: 1 FEB 2002
DATE: 2/1/02
STANDARD PLAN D-19



This CADD file is for the purpose of specifying stormwater treatment equipment to be furnished by CONTECH Stormwater Solutions and may only be transferred to other documents exactly as provided by CONTECH Stormwater Solutions. Title block information, excluding the CONTECH Stormwater Solutions logo and the VortSentry HS Stormwater Treatment System design and patent number, may be deleted if necessary. Revisions to any part of this CADD file without prior coordination with CONTECH Stormwater Solutions shall be considered unauthorized use of proprietary information.

THE VORTSENTRY HS CONTROL SECTION SHALL BE STENCILED WITH THE CONTECH STORMWATER SOLUTIONS NAME AND LOGO. PIPE OPENINGS SHALL BE STENCILED "INLET" OR "OUTLET" AS APPROPRIATE.

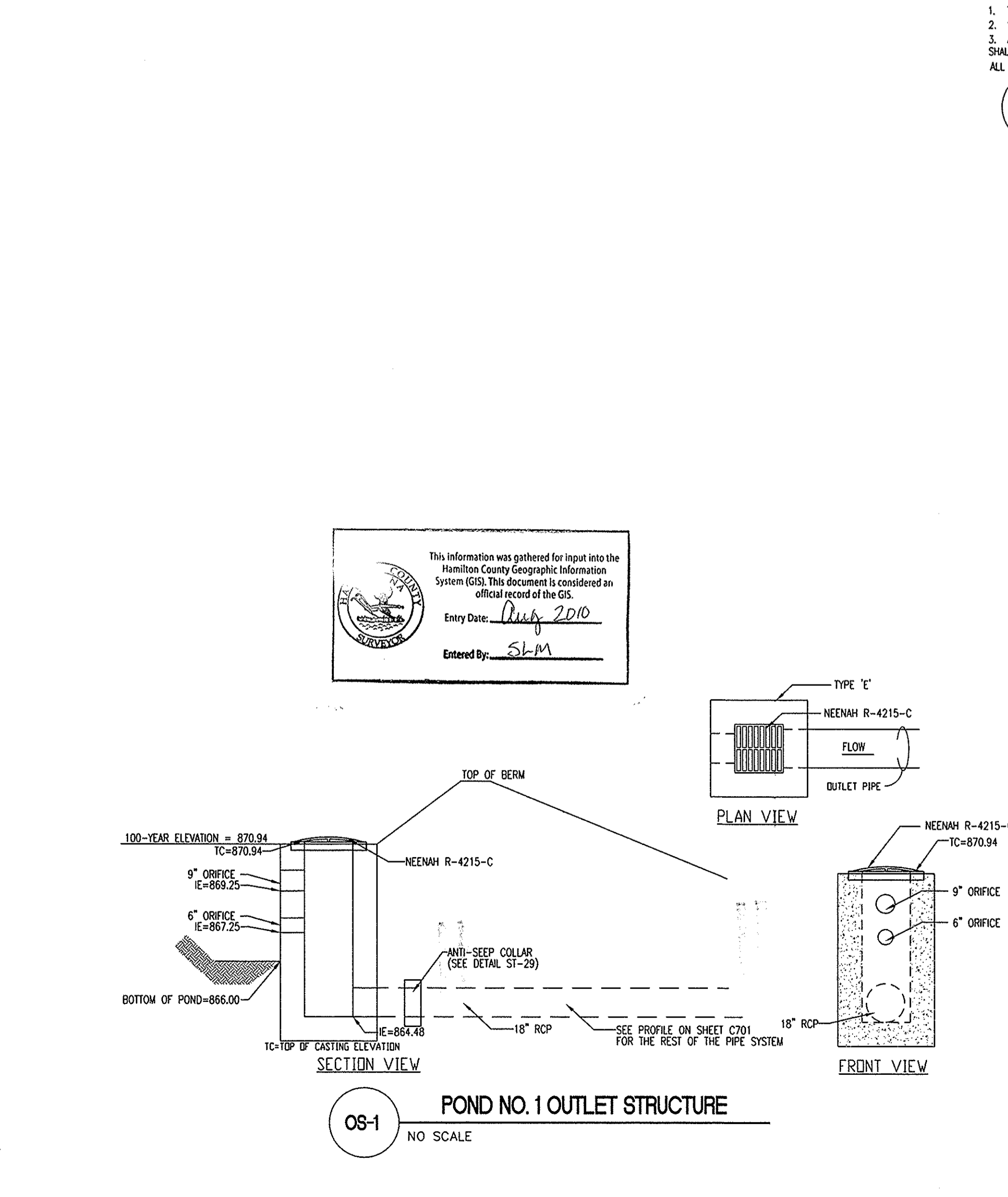
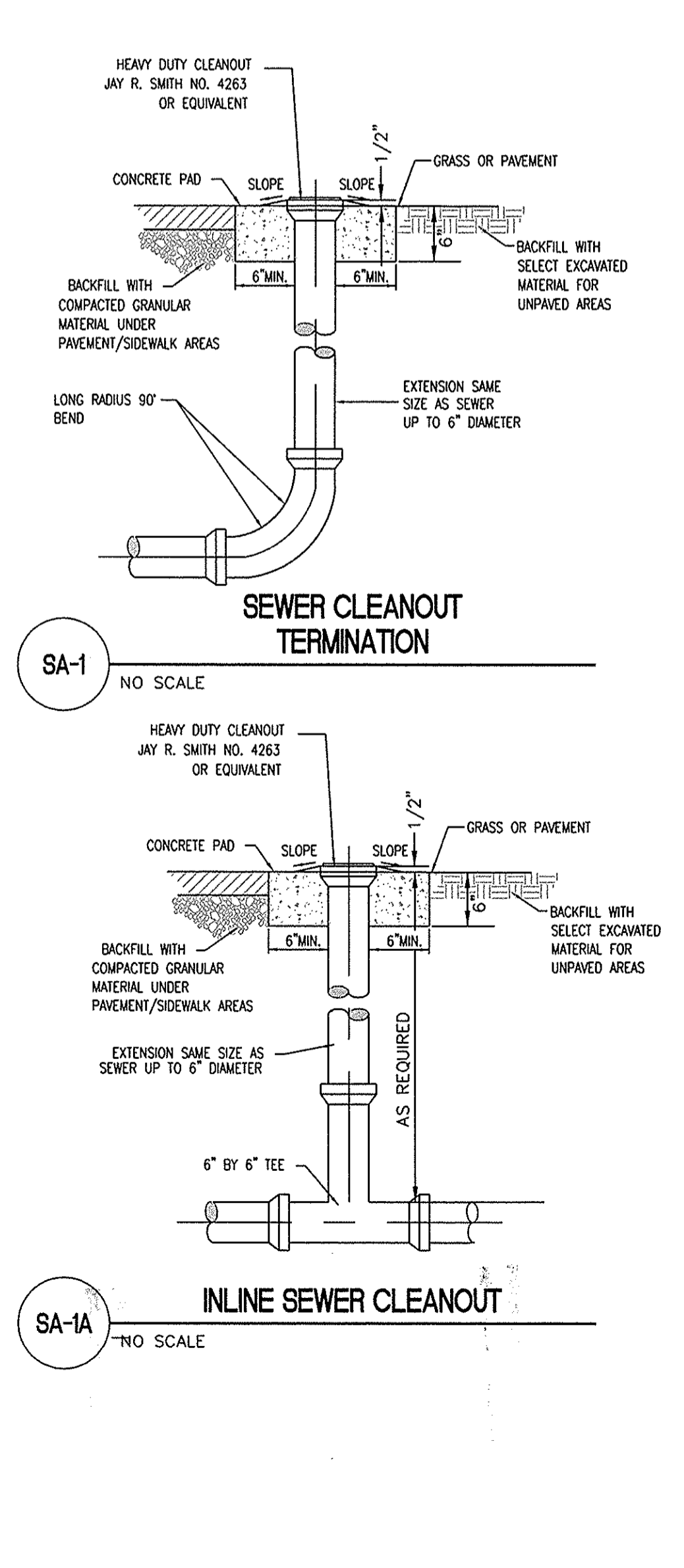
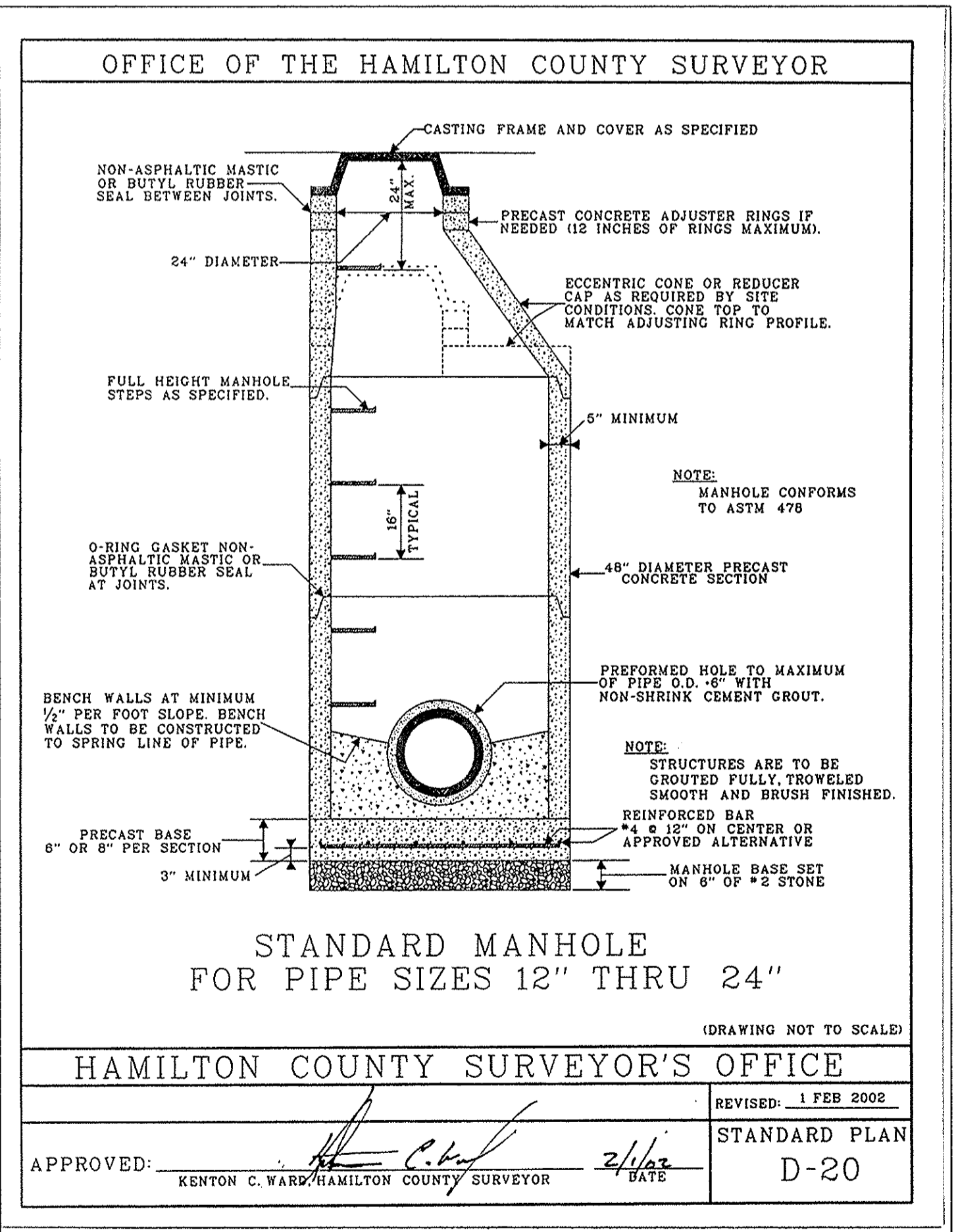
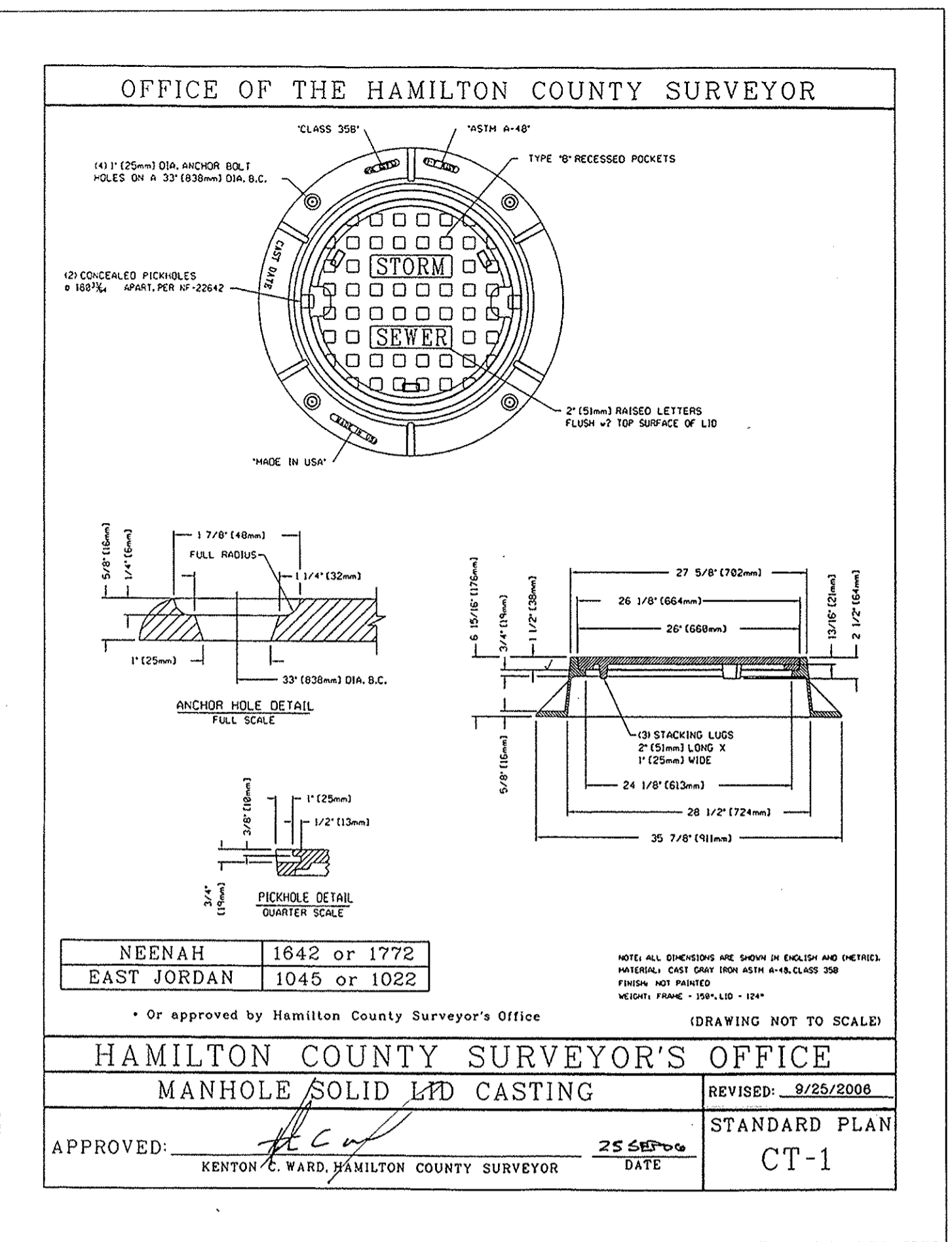
PLAN

LEFT SIDE

ELEVATION

VortSentry Model	Manhole Diameter (ID)		Total Treatment Flow Rate		Typical Total Distance Rim to Outside Bottom		Typical Distance Rim to Invert		Typical Depth Below Invert (Inside)		Approximate Minimum Distance Rim to Invert		Maximum Pipe Diameter (ID)
	ft	mm	cfs	l/s	ft	m	ft	m	ft	m	ft	m	
HS26	2	090	0.56	16.6	10.16	3.10	1.08	1.24	6.68	2.03	0.94	18	460
HS40	4	1200	1.20	34.0	13.25	4.04	0.90	1.03	6.75	2.07	1.22	24	600
HS60	5	1500	2.20	62.3	16.38	4.99	1.98	2.21	6.80	2.07	1.47	30	750
HS72	6	1800	3.70	104.8	16.66	5.06	2.75	2.96	9.46	2.98	1.70	36	900
HS84	7	2100	5.60	158.6	16.95	5.15	3.75	4.06	10.35	3.16	1.45	42	1050
HS96	8	2400	8.10	229.4	20.07	6.00	5.50	5.99	11.54	3.51	2.11	48	1200

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ARCHITECTURE
EQUIPMENT PLANNING
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LAND SURVEYING
OWNER'S REPRESENTATION

3939 PRIORITY WAY SOUTH DRIVE, SUITE 400
INDIANAPOLIS, INDIANA 46240
(317) 844-6777 FAX (317) 706-6464
E-Mail: cripe@cripe.biz

Cripe
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STORM SEWER DETAILS
181ST STREET AND US 31 INFRASTRUCTURE
BROWNING REAL ESTATE PARTNERS
6100 W. 96TH STREET
INDIANAPOLIS, IN 46278

CERTIFIED BY:

CONTRACTOR RECORD DRAWINGS

Date: 01-13-10

COVERING: STORM SEWER DETAILS DESIGN

Checked By: *S. FARNY, EI*

Checked By: *C. WISEMAN, PE*

Checked By: *P. GARTNER, PE*

Scale: 1" = 16'

Sheet: **C704**

Date: 01-15-09

Project Number: 0060384-20300

Drawn by: KCS/MS
Checked by: KCS/MS
Date: 07/17/2010 10:49:14 AM

Project: 0060384-20300
Drawing: 0060384-20300-C704-CONV.DWG
File Path: I:\Projects\0060384-20300\Drawings\0060384-20300-C704-CONV.DWG